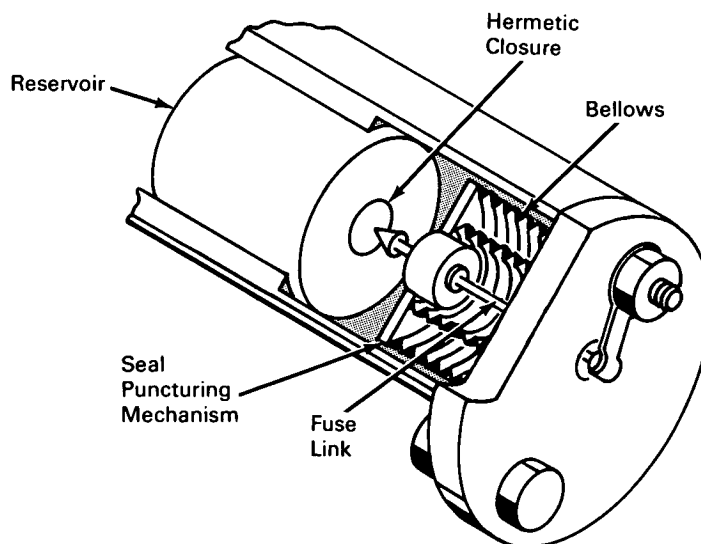


NASA TECH BRIEF



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One-Shot Valve May Be Remotely Actuated



The problem: To provide a hermetically sealed closure with an emergency release that can be actuated by a remote sensor.

The solution: A one-shot valve that contains a spring-loaded plunger and sealing diaphragm. The plunger is released by the electrical melting of a fuse link and pierces the valve seal.

How it's done: The bellows is held in a constrained position by the plunger and fuse link. An electric current is passed through the fuse link causing it to melt, thus releasing the compressed bellows which then drives the plunger through the hermetic closure. The bellows acts as a dynamic seal so that the unit remains hermetically sealed after actuation.

Notes:

1. This innovation could be used to lower fluid pressure in a container without losing the contained fluid.

2. This valve is a one-shot device and must be replaced after use.
3. Inquiries concerning this innovation may be directed to:

Technology Utilization Officer
Western Operations Office
150 Pico Boulevard
Santa Monica, California, 90406
Reference: B65-10266

Patent status: NASA encourages commercial use of this innovation. No patent action is contemplated by NASA.

Source: S. Kami of
Hughes Aircraft Company
under contract to
Western Operations Office
(WOO-195)
Category 05